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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/608,064

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EXAMINER

HOANG, HIEU T

ART UNIT

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/608,064	Applicant(s) JINZAKI, AKIRA	
	Examiner HIEU T. HOANG	Art Unit 2152	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 February 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 6-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 6-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>04/19/2007</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 02/05/2008 has been entered.
2. Claims 2-5 and 19-21 are cancelled.
3. Claims 1, 6-18 are pending.

Response to Amendment

4. The 35 U.S.C. 112 of claims 1 and 21 has been withdrawn due to the amendment of claim 1 and the cancellation of claim 21.

Response to Arguments

5. Applicant's arguments have been fully considered but are moot in view of new ground(s) of rejection.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 1, 6-18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 1 recites: "a copy/transfer unit relaying the data to an addressed receiver, copying the data and transferring the data to one or more receivers other than the addressed receiver or another distribution device through the network, based on the address of the receiver for which the data should be copied and transferred" (last limitation). There is no antecedent basis for "the address" and "the receiver". It is vague whether this receiver is the "addressed receiver" or one of the "one or more receivers other than the addressed receiver." For examining purpose, the examiner will give the receiver the later interpretation. Same rationale applies to claim 18.

8. Claim 1 recites "a command and/or information." It is unclear whether the applicant intends to claim "a command and information" or "a command or information." Claim 1 also recites "copy/transfer." It is unclear whether the applicant intends to claim "copy and transfer" or "copy or transfer." Same rationale applies to claim 18.

9. Claim 1 recites "extracting from a source address of the data, an identifier and control information." However, it is understood from the specification that the identifier and control information are extracted from a source address field of the data. There is no actual source address to extract from because the source address field contains an id and a command, not the actual source address (see fig. 4 of the specification).
Correction is required.

Claim Rejections - 35 USC § 101

10. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

11. Claims 1, 6-18 are rejected under 35 U.S.C. 101 as the claimed invention is directed to non-statutory subject matter.

12. For claims 1 and 6-17, the claims recite a device comprising a broadcast type communication data recognition unit, a broadcast type communication control table storage unit and a copy/transfer unit. However, these units are software modules (see fig. 2A for software modules functioning as the units). Therefore, the claimed device is software, per se, and is non-statutory under U.S.C. 101.

13. For claim 18, a system comprising: the transmitter device (undefined in the specification as to being software or hardware), a broadcast type communication control table storage unit (a data structure), and a distribution device (fig. 2A, comprising software modules), per se, is a software system and is therefore non-statutory.

Claim Rejections - 35 USC § 103

14. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

15. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nakamura et al. (US 2002/0194367, hereafter Nakamura), in view of Begeja (US 7,082,142), further in view of Nakano et al. (US 6,337,850, hereafter Nakano), and Wingard et al. (US 5,948,089, hereafter Wingard).

16. For claim 18, Nakamura discloses a broadcast type communication system conducting broadcast type communications, comprising:

- a transmitter device transmitting broadcast type communication data to a receiver through a network in the form of uni-cast communication (fig. 16, content server broadcasts data using unicast); and
- a broadcast type communication control table storage unit storing an address of a receiver for which the data should be copied and transferred ([0076], a table for conversion, storing addresses of receivers to which data is to be transferred),
- a distribution device provided between a sender and a plurality of receivers, that relays data received from a sender through a network to an addressed receiver and also copies/transfers the data to one or more receivers other than the address receiver, based on the address of the receiver for which the data should be copied and transferred, if the data is broadcast type communication data (fig. 16, [0074] lines 10-14, unicast broadcast data is routed through a multicast substitute device, non-broadcast data is routed to a network terminating device, data is then sent to a plurality of receivers through connections 24, 25, and 26, data is relayed to a plurality of receivers using multicast; [0076], destination

addresses of the receivers are combined for transferring data by multicast to the receivers).

Nakamura does not explicitly disclose copying the data.

However, Begeja discloses that the process of converting from unicast to multicast includes copying or duplicating data before relaying the data to the receivers (fig. 1, unicast to multicast convergence, col. 3 lines 52-60, unicast data is received and replicated so that each receiver can receive the stream).

Nakamura-Begeja does not disclose the broadcast type communication data including an identifier and control information including a command and/or information specifying a relay and copy/transfer of the broadcast type communication data;

However, Nakano discloses the same (fig. 37, 38, a packet with stream ID and command)

Nakamura-Begeja-Nakano does not disclose each data transfer available/unavailable flag addressed to the receiver in relation to the identifier of the broadcast type communication data; stored in the broadcast type communication control table storage unit.

However, Wingard discloses each data transfer available/unavailable flag addressed to the receiver stored in a memory (fig. 6, col. 15 lines 1-16, flag 7 indicates whether data is available).

Therefore, it would have been obvious for one skilled in the art at the time of the invention to combine the teachings of Nakamura-Begeja-Nakano-Wingard in order to use Wingard's flag to provide a precise indication once a module has obtained desired

data instead of estimating when the desired data is available, which can increase latency (Wingard, col. 14 lines 51-58), and also incorporate stream ID and command in packet to process the packet accordingly to the command using a known packet structure as disclosed by Nakano.

17. Claims 1, 6, 11, 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakamura in view of Begeja, further in view of Nakano, Wingard and Zheng et al. (US 2002/0181400, hereafter Zheng).

18. For claim 1, Nakamura discloses a broadcast type communication data distribution device distributing data in a network, comprising:

- a broadcast type communication data recognition unit analyzing data receiving, as data received from a sender, segments of broadcast type communication data sent through the network as a unicast communication (fig. 16, unicast broadcast data is routed to a multicast substitute device, non-broadcast data is routed to a network terminating device, [0074] lines 10-15, a user broadcasts data using unicast connections to a plurality of host devices, broadcast segments to a plurality of host devices is intercepted at the multicast substitute device); and
- a broadcast type communication control table storage unit storing an address of a receiver for which the data should be copied and transferred ([0076], a table for conversion, storing addresses of receivers to which data is to be transferred),

- a copy/transfer unit relaying the data to an addressed receiver, transferring the data to one or more receivers other than the addressed receiver or another distribution device through the network (fig. 16, data is then sent to a plurality of receivers through connections 24, 25, and 26. Data is relayed to a plurality of receivers using multicast), based on the address of the receiver for which the data should be copied and transferred ([0078] lines 4-9, checking for receiver address then copy/convert to multicast and transferring to receivers)

Nakamura does not explicitly disclose copying the data.

However, Begeja discloses that the process of converting from unicast to multicast includes copying or duplicating data before relaying the data to the receivers (fig. 1, unicast to multicast convergence, col. 3 lines 52-60, unicast data is received and replicated so that each receiver can receive the stream).

Nakamura-Begeja does not explicitly disclose extracting from a source address of the data, an identifier and control information including a command and/or information specifying a relay and copy/transfer of the data received from the sender, by analyzing a source address field of the data;

However, Nakano discloses the same (fig. 37, 38, combination of source address, command and stream ID is read as source address field where ID and command is stored)

Nakamura-Begeja-Nakano does not explicitly disclose each data transfer available/unavailable flag addressed to the receiver in relation to the identifier of the data; stored in the broadcast type communication control table storage unit.

However, Wingard discloses each data transfer available/unavailable flag addressed to the receiver stored in a memory (fig. 6, col. 15 lines 1-16, flag 7 indicates whether data is available).

Therefore, it would have been obvious for one skilled in the art at the time of the invention to combine the teachings of Nakamura-Begeja-Nakano-Wingard in order to identify a broadcast type multicast transmission using the source address, or the flow identifier included in the data packets as in Zheng's and therefore implement an advantageous relay method as described by Nakamura (Nakamura, fig. 16, substituting unicast broadcast data with multicast data); and also use Wingard's flag to provide a precise indication once a module has obtained desired data instead of estimating when the desired data is available, which can increase latency (Wingard, col. 14 lines 51-58), also identifying a flow is uniquely by a combination of a flow identity number and its source address (Zheng, abstract, a flow is uniquely identified by the flow's identity number in combination with its source address, therefore by inspection of a flow ID, one can know whether two or more packets are of a same flow or not).

19. For claim 6, the claim is rejected as in claim 1. Nakamura-Begeja-Nakano-Wingard-Zheng further discloses when said broadcast type communication data recognition unit extracts a command from the control information indicating an addition of a receiver, said broadcast communication control table storage unit adds the destination address of the data as a receiver address in relation to the identifier of the

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data received from the sender (Nakamura, [0078] lines 4-15, destination address is added to a list of receivers' addresses for the multicast session).

20. For claim 11, the claim is rejected as in claim 1. Nakamura-Begeja-Nakano-Wingard-Zheng further discloses said copy/transfer unit relays or copies/transfers all segments of data received from the sender, including the control information extracted by the broadcast type communication data recognition unit (Nakamura, [0076]).

21. For claim 15, the claim is rejected as in claim 1. Nakamura-Begeja-Nakano-Wingard-Zheng further discloses said broadcast type communication data recognition unit analyzes a source address, which is a private address of a MAC address in an Ethernet, and recognizes data in a layer 2 network (Nakamura, fig. 4, layer 2 MAC address, MAC is a standard OSI layer 2 or data-link layer).

22. For claim 16, the claim is rejected as in claim 1. Nakamura-Begeja-Nakano-Wingard-Zheng further discloses said broadcast type communication data recognition unit analyzes a source address, which is an Internet protocol address, and recognizes data in a layer 3 network (Nakamura, fig. 3, layer 3 IP address, IP is an OSI layer 3 or network layer).

23. For claim 17, the claim is rejected as in claim 1. Nakamura-Begeja-Nakano-Wingard-Zheng further discloses said broadcast type communication data recognition

unit analyzes a source address, which is a port number of a user data protocol or a transmission control protocol, and recognizes data in a layer 4 network (TCP is a standard OSI layer 4 or transport layer).

24. Claims 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakamura-Begeja-Nakano-Wingard-Zheng, as applied to claim 1, in view of Williams (US 7,080,135).

25. For claim 7, the claim is rejected as in claim 1. Nakamura-Begeja-Nakano-Wingard-Zheng does not disclose when said broadcast type communication data recognition unit extracts a command from the control information indicating a deletion of a receiver, said broadcast communication control table storage unit deletes an entry having a receiver address that matches a destination address of the data, in relation to the identifier of the data received from the sender.

However, Williams discloses the same (fig. 7, a register receives a delete entry command, then looks up the entry and deletes the corresponding entry from the address table).

Therefore, it would have been obvious for one skilled in the art at the time of the invention to combine the teachings of Nakamura-Begeja-Nakano-Wingard-Zheng with the teachings of Williams in order to delete address entries from the address table to minimize congestion and increase operating performance of the network (Williams, col. 9 lines 22-25)

26. For claim 8, the claim is rejected for the same rationale as in claim 7.

27. Claims 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakamura-Begeja-Nakano-Wingard-Zheng, as applied to claim 1, in view of Tzeng et al. (US 2003/0212814, hereafter Tzeng).

28. For claim 9, the claim is rejected as in claim 1. Nakamura-Begeja-Nakano-Wingard-Zheng further discloses when said broadcast type communication data recognition unit extracts a command from the control information, said broadcast communication control table storage unit sets the data transfer available/unavailable flag of a receiver address that matches the destination address of the data received from the sender, to unavailable (Wingard, fig. 5, item 540).

However, Tzeng discloses that the information is indicating the stoppage of data distribution to a receiver ([0032], a pause frame pauses unicast transmission)

Therefore, it would have been obvious for one skilled in the art at the time of the invention to combine the teachings of Nakamura-Begeja-Nakano-Wingard-Zheng and Tzeng in order to stop, resume unicast transmission on the transmission side to avoid congestion in the network (Tzeng, [0005])

29. For claim 10, the claim is rejected as in claim 1. Nakamura-Begeja-Nakano-Wingard-Zheng further discloses when said broadcast type communication data

recognition unit extracts a command from the control information, said broadcast communication control table storage unit sets the data transfer available/unavailable flag of a receiver address that matches the destination address of the data received from the sender, to available (Wingard, fig. 5, item 540).

However, Tzeng discloses that the information is indicating the re-start of data distribution to a receiver ([0030], an unpause frame resumes the unicast transmission)

Therefore, it would have been obvious for one skilled in the art at the time of the invention to combine the teachings of Nakamura-Begeja-Nakano-Wingard-Zheng and Tzeng in order to stop, resume unicast transmission on the transmission side to avoid congestion in the network (Tzeng, [0005])

30. Claims 12, 13, and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakamura-Begeja-Nakano-Wingard-Zheng, as applied to claim 1, in view of what is well-known in the art.

31. For claim 12 and 13, the claims are rejected for the same rationale as in claim 11.

Official notice is taken that scrambling information is a well-known technique in the art of Network Security (see e.g., Kwon et al., US 2002/0138721, abstract).

Therefore, it would have been obvious for one skilled in the art at the time of the invention to scramble information before sending it out to a destination, the scrambled

information can then be unscrambled to be used at the destination in order to provide extra security for network transactions.

32. For claim 14, Nakamura-Begeja-Nakano-Wingard-Zheng further discloses the data received from the sender includes no data to be finally provided for a receiver (same rationale as in claim 12 and 13, because the data has been scrambled, there is no data to be finally provided for a receiver)

Conclusion

33. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hieu T. Hoang whose telephone number is 571-270-1253. The examiner can normally be reached on Monday-Thursday, 8 a.m.-5 p.m., EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bunjob Jaroenchonwanit can be reached on 571-272-3913. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

HH

/Bunjob Jaroenchonwanit/
Supervisory Patent Examiner, Art Unit 2152